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Claims

[c1] An energy-absorbing device for an imaging tube having a housing, said device comprising an energy-absorbing body fluidically coupled to said housing and adapted to absorb kinetic energy generated within the imaging tube.

[c2] A device as in claim 1 wherein said energy-absorbing body is directly coupled to said housing.

[c3] An imaging tube comprising:
a housing;
a rotating target coupled within said housing and generating at least one energy wave; and
at least one energy-absorbing device fluidically coupled to said housing and said rotating target, said at least one energy-absorbing device adapted to absorb energy within said at least one energy wave.

[c4] An imaging tube as in claim 3 further comprising a frame coupled between said rotating target and said housing and containing at least a portion of said at least one energy wave, said at least one energy-absorbing device absorbing energy within said portion.

[c5] An imaging tube as in claim 3 further comprising a cooling material containing at least a portion of said at least one energy wave, said at least one energy-absorbing device absorbing energy within said portion.

[c6] An imaging tube as in claim 3 wherein said at least one energy-absorbing device is within said housing.

[c7] An imaging tube as in claim 3 wherein said at least one energy-absorbing device is fluidically coupled between said rotating target and said housing.

[c8] An imaging tube as in claim 3 wherein said at least one energy-absorbing device is toroidal in shape.

[c9] An imaging tube as in claim 3 wherein said at least one energy-absorbing device is directly coupled to an inner surface of said housing.

[c10] An imaging tube as in claim 3 wherein said at least one energy-absorbing device is formed of a material selected from at least one of a foam, a closed cell foam, a polyolefin foam, a olefin foam, a polymer, and a polyolefin plastic.

[c11] An imaging tube as in claim 3 wherein said at least one energy-absorbing device is oriented to receive said at least one energy wave generated from the separation of

material fragments from said rotating target.

[c12] An imaging tube as in claim 3 wherein said at least one energy-absorbing device is oriented to receive energy waves emitted within an emission range that is approximately a ±30° span from a perpendicular axis, which extends perpendicular to a center axis of rotation of said rotating anode.

[c13] An imaging tube as in claim 3 wherein said at least one energy-absorbing device is coupled to said housing using at least one technique selected from bonding, adhering, fastening, brazing, welding, and spot welding.

[c14] An imaging tube as in claim 3 further comprising at least one energy-absorbing device coupler coupling said energy-absorbing device to said housing.

[c15] An imaging tube as in claim 14 wherein said at least one energy-absorbing device coupler is a coupler selected from at least one of a bracket, a fastener, and a cover.

[c16] An imaging tube as in claim 14 wherein said at least one energy-absorbing device coupler is integrally formed as part of the housing.

[c17] An imaging tube as in claim 3 wherein said at least one energy-absorbing device comprises an outer skin.

[c18] An imaging tube as in claim 3 wherein said at least one energy-absorbing device stabilizes and reduces pressure exertions on said housing.

[c19] An imaging tube as in claim 3 wherein said at least one energy-absorbing device comprises an x-ray opening.

[c20] An imaging system having an imaging tube comprising:
a housing;
a rotating target coupled within said housing and generating at least one energy wave; and
at least one energy-absorbing device fluidically coupled to said housing and said rotating target and absorbing energy within said at least one energy wave.